and it is generally much regretted that so few exhibits have been sent from England, which has played a leading part in the development of applied electricity.

A special feature of the Vienna Exhibition is the building itself—the Rotunda, built by Scott Russell, the eminent engineer, in 1873, covering with its annexes and courts a space of 33,000 square metres. The vast dome is 79 m. in height, and three galleries, the highest—the lantern gallery—being 66 m. above the ground, make it well adapted for illumination by electric lamps. Everything has been done to make the Exhibition as interesting and attractive as possible. Between the Rotunda and the Praterstern an electric tramway will run. The Rotunda is brought into telephonic connection with the Opera. A gallery of the Exhibition building contains a model theatre lighted by incandescent lamps, where ballets will be performed and scientific lectures given by eminent specialists, while another gallery contains beautifully arranged and furnished interiors and the picture gallery. In the machine rooms the great boilers make a gigantic impression; they will supply the various motors with 1400 horse-power to drive the electric machinery for lighting and transmission of motive power. In the nave are arranged the exhibits of different railway companies and also various scientific apparatus, of which further details will be given in subsequent communications.

Vienna, August 16

NOTES

WE understand that Her Majesty's Government having through the Foreign Office been invited to appoint delegates to the International Geodetic Congress to be held at Rome in October next, at which the adoption of an international common meridian and common time for railway and telegraph purposes is to be discussed, the Lords of the Committee of Council on Education appointed a Committee to report on the subject. The Committee consisted of the Astronomer-Royal, General Cooke, C.B., R.E. (late Director-General of the Ordnance Survey), General Strachey, C.S.I., R.E. (Member of the India Council), and Col. Donnelly, R.E. (Secretary of the Science and Art Department). In consequence of their Report, the Treasury have consented to provide the travelling and personal expenses of two delegates. We are glad to say that the Science and Art Department, in concert with the Foreign Office, have appointed the Astronomer-Royal and Col. A. R. Clarke, C.B., R.E., F.R.S., to represent this country, and that they have consented to act.

THE local secretaries at Southport have been exerting themselves to make the visit of the British Association a success. Excursions are arranged for Saturday the 22nd and Thursday the 27th of September. The Association has not met in Lancashire since the meeting at Liverpool in 1870 under the presidency of Prof. Huxley, and it is believed that the industries of the county have since then so developed and expanded as to open up fresh sources of interest to the chemist, the engineer, and the economist. It is believed that ample and convenient accommodation for a full meeting of the Association has been secured. The Winter Gardens have been engaged for the exclusive use of the Association, and in them will be given the Presidential Address and evening lectures, and in them will also be held the *conversazioni*. The spacious assembly room in the Cambridge Hall will be devoted to the purposes of a reception room, and suitable halls have been acquired for the use of the various sections. Numerous excursions are in process of arrangement. Among these is a visit to Stonyhurst College, the observatory, museum, library, collection of ecclesiastical vestments, and grounds, which are extremely interesting. The Abram Colliery, near Wigan, will be open to inspection, as will also the Wigan Coal and Iron Company's pits and ironworks. Messrs. Platt Brothers and Co. have offered to show a party of members of the Association over their extensive machine works at Oldham, and certain large cotton mills in the same town will be open to visitors on the same day. A geological excursion will be made to the neighbourhood of Clitheroe and the Victoria Caves, which it is hoped will be personally conducted by Mr. R. H. Tiddeman, M.A., F.G.S., who made the geological survey of the district. Another party will visit Furness Abbey and the Lake District. The Earls of Derby, Crawford and Balcarres, and Lathom, and Mr. Weld-Blundell of Ince Blundell, will throw open their grounds to members of the Association, and at some of these places garden parties will be given. There is abundant hotel accommodation of the best kind, as well as good hydropathic establishments and numerous excellent lodging-houses. A list of all these has been prepared and published in pamphlet form.

THE French Association began its meetings at Rouen on Thursday last, when the president, M. Fréderic Passy, gave an address on the history of political economy. The revenue of the Association during the past year amounted to 85,677 francs, of which 13,900 francs were devoted to purposes of research. The capital of the Association reaches the large sum of 454,526 francs. On Friday evening M. Hatt, hydrographer to the French navy, lectured on the transit of Venus in December, 1882, while another lecture on the transmission of force was given by Prof. Comberousse. Considerable time was devoted on Saturday in the Engineering Section to proposals for improving the navigation of the Seine. Various excursions have been made during the week, and will be continued to-morrow and following days.

MR. BELT has been commissioned by the *employés* of the late Mr. William Spottiswoode, President of the Royal Society, to execute a monument to his memory, and the site for its erection will be in front of Her Majesty's Printing Office.

VIENNA papers announce the death at Botzen, in the Tyrol, on August 10, of the Austrian Vice-Admiral, Baron von Wüllerstorf-Urbair, one of the most learned and scientific officers that the Austrian navy has ever possessed, and who has contributed greatly to its professional improvement. He was not originally intended for a naval life, and was educated in the engineering officers' school at Tulla, where he acquired a great reputation, especially on account of his mathematical talents and proficiency. But a combination of circumstances led to his being transferred to the navy at the age of eighteen. He was almost at once allowed leave of absence to continue his scientific studies at Vienna, where he pursued astronomy and meteorology under Littrow, at that time director of the Vienna Observatory. In 1839, when only twenty-four years of age, Wüllerstorf was appointed to organise the marine observatory, and from that time till 1848 he acted as director of that institution, and as professor of astronomy and navigation at the Naval Academy in Venice. In 1848 he returned to active service, becoming commodore in 1857, when he took command of the *Novara* on the celebrated expedition around the world, the first of the kind undertaken by the Austrian Government. In 1861, being then rear-admiral, he became commander at the Venice station, and in 1864, during the Danish war, he was appointed to the command of the combined Austrian and Prussian squadron in the North Sea. In 1865 he became Minister of Commerce, a position which he held till 1867, when failure of health compelled him to retire from active life at the early age of fifty-two. He was a member of the Austrian Academy of Sciences, and of many other scientific bodies. He was sixty-eight years of age when he died.

THE liberality of Finland to science is exemplary. The Senate has voted a sum of about 8000*l.* for hydrographical researches and measurements in the Gulf of Bothnia. A suitable steamer is to be purchased and fitted with the necessary appliances and instruments. We have received a communication from Prof. Lemström, in which he informs us that the Senate has also voted him a sum of 1500*l*. for the continuance of his experiments in connection with the aurora borealis during next winter at Sodankylä. In a few weeks he will forward the programme of his intended researches to NATURE.

THE arrangements for the autumn meting of the Iron and Steel Institute, to be held on the 18th, 19th, and 20th of September, at Middlesbrough, are now almost completed. An influential local committee has been formed in that town, under the chairmanship of Mr. Bolckow, and has organised a series of excursions and entertainments in honour of the Institute. The new Basic Steel Works of the North-Eastern Steel Company, and the new and very extensive works of Bolckow, Vaughan, and Company, at Eston, will be the chief works to be visited, and as they are the first works that have been established in this country for carrying on the manufacture of steel by the Basic process, it is likely that they will be examined specially by the various members. Another interesting excursion will be made to the South Durham coal district, where a new system of manufacturing coke, admitting of very considerable economy in the yield as well as in the collection and utilisation of all the by-products obtained by the distillation of coal, has been for some time successfully at work. A very good list of papers has been formed for reading and discussion, and a fund of several thousand pounds has been raised to cover the expenses of entertaining the members of the Institute.

PADRE DENZA, the Director of the Observatory at Moncalieri, expresses, in a letter to the Bishop of Ischia, the opinion, based on the information thus far obtained, that no ulterior disasters are to be feared in Ischia for the present; and especially if the forces at work under Mount Epomeo continue to find vents in the two active *fumaroli*. At the same time he adds:—"We have, however, to do with capricious and uncertain phenomena which are still a mystery to science. They are matters which require close study, and I have recommended them strongly to de Rossi's attention." Prof. de Rossi, in his second report, a brief summary of which appeared in NATURE last week, limits himself to the consideration of the many warnings that Nature gave of the catastrophe. His third report will treat directly of the phenomena connected with it. In the meantime he is emphatic in recommending to the Minister of Agriculture and Commerce the completion of that chain of observatories over all the volcanic districts of Italy, for the reception and consideration of the signs and movements noted in which the Roman Observatory was founded. Had that chain been at least more complete, and had the long-talked-of observatory in Ischia constituted a link in it, the Roman Observatory would have recognised the fact that the widely extended subterranean movement, manifested with augmentation during the ten days anterior to July 28, had its centre of greatest, most continuous, and most variously marked activity at Casamicciola, and would have given that timely warning of the approaching storm which might have saved many lives. But, he adds, there is a question as to whether such warnings should be given. The inhabitants of Albano might, for instance, have abandoned their houses in alarm, and have spent the night in the fields, had the extraordinary state of the Solfatara there been known publicly on the 28th. "To this I reply," writes Prof. de Rossi, "that the inhabitants of Casamicciola would also have spent the night in the open air, and many lives would have been saved." But it is evident, according to the *Times* correspondent, from de Rossi's first preliminary report, that there is but little enthusiasm in favour of a system of earthquake warnings, like the storm warnings sent across the Atlantic, being adopted in Italy, where in many districts the inhabitants depend chiefly on strangers for their existence. He does not hesitate to attribute to a selfish fear of frightening strangers away the opposition made to the establishment of an observatory at Casamicciola. It has now been ascertained that the signs of warning at Casamicciola were numerous, and well known to those most interested in concealing them. But the possibility of danger was ridiculed, and part of the performance in the theatre on that fatal evening was Polchinello flying from imaginary alarms of earthquake. Prof. Palmieri summarises his observations on the earthquake in Ischia as follows:—"A small or moderate earthquake causing immense disaster. The continuous wearing away of the soil by the hot subterraneous springs is sufficient to explain the immense catastrophe, which has been enhanced by the very bad construction of the houses. Some damaged by the earthquake of 1881 had remained without repairs. The disaster of July 28 will be recorded more on account of the enormous loss of life and property than of its seismographic importance."

THE Island of Ometepec in the Lake of Nicaragua has just been utterly devastated by a volcanic outbreak, causing an overflow of several lava streams which filled up several valleys and ingulfed in its fiery current farmsteads, cattle, and all the cultivated fields. The eruption began on June 19, when a new crater opened. A continuous earth-tremor resulted in an overflow of lava directed towards Las Pilas. Two days later several other hills opened, pouring out lava in every direction, and the terrified inhabitants fled. Boats were sent from the neighbouring towns to save them. The whole island is described to be at present a heaving mass of molten lava, quite uninhabitable.

A SHOCK of earthquake sufficiently strong to move beds and displace crockery occurred last Thursday at Schuols, Pontresina, and Tarasp, in the Engadine. The shock was preceded by a violent storm and heralded by a peal of subterranean thunder.

A STATUE of Daguerre will be unveiled at his native village of Cormeilles on Sunday.

THE recent inquiry in the United States Patent Office concerning the invention of the telephone has had the following results:—Out of eleven interference cases, eight of them have been decided in Bell's favour, two in Edison's, and one in MacDonough's. MacDonough's award was for the invention of a "telephonic receiver," consisting of the combination of an electric current with a magnet and a diaphragm arranged close to the magnet so as to reproduce accurately the sounds as regards quality and pitch. Edison's awards are (1) for a "hydroelectric telephone"; (2) "for a spring carrying one electrode and constantly pressing against the other electrode, and the diaphragm to maintain the required initial pressure between the electrode and yield to the movements of the diaphragm." The most remarkable of Bell's awards is the art of transmitting and reproducing sounds at a distance by means of an undulating electric current. The remaining awards of Bell's consist of various forms of transmitters.

A NEW galvanometer has been brought out by M. Ducretet, which contains the valuable properties of being dead beat and being used for both strong and high potential currents. Its chief points consist in a movable compound coil, the fine wire coil being near 6000 ohms, and the framework of this coil, which consists of a copper ring, being the low resistance coil. The magnetometer part consists of a box with a very delicately balanced needle immersed in some transparent liquid. The needle is very small, and has attached to it a fine aluminium pointer by which the readings are made. The galvanometer can be used for all strengths of current in practical use.

AMONGST the candidates who have offered themselves to fill the place in the Academy of Sciences vacated by the recent death of M. Lagournerie, we may note M. Bischoffsheim and Col. Laussedat, Director of the Conservatoire des Arts et Métiers.

M. de Fonvielle, writing from Annonay, informs us that at the unveiling of the Montgolfier statue Col. Perier, who was the official representative of the Government of the Republic, was in the chair, and spoke in praise of Montgolfier in the name of the French army. M. Dupuy de Lome delivered a written address, extending over two hours, being a detailed *procès-verbal* of our actual knowledge of aëronautics. Like other speeches delivered on the occasion it will be printed in full in the *Journal Officiel*. M. Tisserand, the astronomer, spoke during a very few minutes, admitting that it would be possible to see celestial bodies better if the observer were carried away from the earth nearer to the limits of the atmosphere. The effect of the statue, which has been cast in bronze, is very happy, M. Cordier having represented the Montgolfiers in the act of inflating a Montgolfière—Joseph is presenting the object to his brother Stephan, who on his knees has in his hand a bundle of burning straw and presents it under the hole. In the evening a banquet took place at the Hôtel de Ville, Col. Perier being in the chair.

The last number (the 28th) of the *Mittheilungen der deutschen Gesellschaft für Natur und Völkerkunde Ostasiens* contains the first instalment of a paper by Dr. Baels, of Tokio, on the "Physical Characteristics of the Japanese." The writer refers to the extraordinary contradictions on this subject in the ordinary works on Japan. Thus Miss Bird says of the Japanese: "Their physique is wretched, leanness without muscle being the general rule;" while Consul-General Van Buren speaks of them in his reports to the Department of State at Washington as "a race of people of good physique, of stalwart and well-proportioned frames." And so with other writers. This is the more surprising that life in Japan is very public, and the opportunities for accurate observation are accordingly very numerous. In fact, Dr. Baels says, a study of the literature on the subject shows that we know nothing certain about the physical qualities of this people. This is probably to be attributed to the fact that detailed and accurate observations and anthropometrical measurements have not been made; and this defect Dr. Baels's position as professor and surveyor in the principal Japanese hospital gave him ample opportunity for supplying. Accordingly we find that his conclusions are supported by large numbers of statistics. In some cases 1200 persons were measured, and as a rule at least 100 measurements and observations were taken. The whole paper is divided into two sections, the anatomical and physiological, of which we have only the first in the present number. In examining the interesting question as to the origin and position of the Japanese race, the author finds himself confronted with the most perplexing and contradictory assertions respecting the Ainos. In two columns, side by side, he places the statements of two countrymen of his own—Drs. Dœnits and Scheube—as to the Aino characteristics, with the result that one is in flat contradiction to the other, in such apparently simple matters as the hair, its growth and quality, the shape of the nose, &c. After a long examination of the authorities, however, he comes to the following conclusions:—(1) The Ainos were the original inhabitants of Central and Northern Japan, and their influence on the modern Japanese race is small; (2) a Mongoloid tribe, similar to the better class of the Chinese and Coreans, emigrated from the mainland through Corea, and settled the south-western part of the main island, and from thence spread themselves over that island; (3) another Mongol tribe, bearing a resemblance to the Malays, first settled in the south in Kiushiu, and gradually conquered the whole country. This stem is represented now in its purest form in Satsuma, and gave Japan its Imperial House. It also forms the large mass of the Japanese of to day. He further surmises that the second factor, namely those Mongols with the fine features, came from far to the south and west, and were perhaps related to the Akkadians; but he finds no direct connection whatever between the Japanese and any Semitic race. The remainder of the paper is occupied with statistics respecting the size and proportion of the body and its single parts.

We have received from the director of the Meteorological Observatory of Tokio some of the daily weather maps issued by that institution. The observatory, which is attached to the geographical bureau of the Home Department, is not new, although it was not till 1881 that a plan for a telegraphic weather service was suggested to the Government. From July 1, 1882, the introduction of millimetres and degrees Centigrade, and of three equidistant, simultaneous meteorological observations at 6 a.m., 2 p.m., and 10 p.m. Kioto time were sanctioned. Twenty-two stations were established from Kagoshima and Nagasaki in the south to Hakodate and Sapporo in the north. Each morning one telegram recording the observations of the previous day is despatched to Tokio, and appears in three weather maps. These latter are both in English and Japanese, and are printed with great clearness. It is intended, as soon as sufficient experience has been acquired, to supplement the reports and maps by the issue of warnings and indications.

Those interested in the origin and history of the telephone should read Prof. Silvanus P. Thompson's "Philipp Reiss, Inventor of the Telephone," a biographical sketch, with documentary testimony, translations of the original papers of the inventor, and contemporary publications. E. and F. N. Spon are the publishers.

We have received the last volume of the *Memoirs of the Kieff Society of Naturalists* (vol. vii.), which contains, besides the proceedings and a note on chemical analyses of the Kieff clays, an elaborate memoir, by M. Armashevsky, on the geology of the province of Chernigoff, with a geological map of the province. It is covered with Upper Chalk, more than a hundred feet thick, quite like that of the neighbouring provinces, and the fossils of which prove to be intermediate between the Senonian and Turonian. The chalk appears, however, only in the deeper excavations of the Desna and Sudost Rivers, as it is covered with a thick sheet of Tertiary deposits, which are found throughout the north-eastern part of the province, disappearing towards the south-west under the boulder clay. The Tertiary consists of two parts—the Glauconite sands and sandstones, and the quartz sands with intermediate beds of sandstones. It is most varied in colour and composition, and contains phosphorite, caolin, brown-coal, and boulders of chalk. It is a part of the immense Tertiary basin that covers Southern Russia from Kherson and Kieff to Saratoff and Simbirsk, and bears the characters of shallow-sea deposits, with banks of oysters. The fossils discovered by M. Armashevsky leave no doubt as to its belonging to the Lower Eocene. It is covered in its turn with Post-Pliocene pottery clays, and these last with an immense sheet of boulder clay, which is widely spread throughout the province, as well as throughout the whole of middle Russia. It is an unstratified and unwashed mixture of clay, sand, and boulders, partly of Scandinavian origin and partly brought from all those formations that are met with to the north of Chernigoff; that is, Silurian, Devonian, and Carboniferous. Huge masses of chalk and Cretaceous sands are also met with in it. The boulders reach sometimes the size of ten feet, and are sometimes polished and striated—the local ones as well as those brought from the north. The author, who is well acquainted with the recent literature of the subject, and especially with the numerous researches of German glacialists, does not hesitate to recognise that the province of Chernigoff, as far as Kieff, was covered by the ice-sheet that extended throughout what is now middle Germany and middle Russia, the continental and glacial origin of the boulder clay being beyond doubt. His remarks on the extension and mode of formation of the loess, which appears with its characteristic features in the ravined parts of the province along the valleys of the larger rivers, are also worthy of notice. It has a continental origin, but rather aqueous than atmospheric.

A FISHERIES EXHIBITION will be held in Lysekil in Sweden early next month.

LAST week at Coblenz experiments were made with young ravens with a view of replacing carrier-pigeons by them. The ravens are not so subject to being attacked and destroyed by birds of prey. The ravens were sent from Coblenz to a small place on the Moselle near Treves, a distance of about forty miles. The experiments proved eminently successful.

THE additions to the Zoological Society's Gardens during the past week include two Silver-backed Foxes (*Canis chama* ♂ ♀) from South Africa, presented by Mr. John Maydon; a Syrian Bear (*Ursus syriacus*) from Thibet, presented by Mr. A. W. Hicks Beach; two Red-backed Shrikes (*Lanius collurio*), British, presented by Mr. D. Bowl; a Sparrow Hawk (*Accipiter nisus*), British, presented by Mr. F. Gunn; two Spotted Salamanders (*Salamandra maculosa*), European, presented by Miss Harris; two Russ's Weaver Birds (*Quelea russi*) from West Africa, three Java Sparrows (*Padda oryzivora*) from Java, two Saffron Finches (*Sycalis flaveola*) from Brazil, two Undulated Grass Parakeets (*Melopsittacus undulatus*) from Australia, a Gray-headed Love Bird (*Agapornis cana*) from Madagascar, a Goldfinch (*Carduelis elegans*), two Bullfinches (*Pyrrhula europœa*), a Chaffinch (*Fringilla cœlebs*), a Lesser Redpole (*Linota rufescens*), a Siskin (*Chrysomitris spinus*), British, an Indian Python (*Python molurus*) from India, deposited; five Blue-headed Pigeons (*Starnœnas cyanocephalus*) from Cuba, purchased; a Quebec Marmot (*Arctomys monax*), two Gray Squirrels (*Sciurus cinereus*) from North America, a Plantain Squirrel (*Sciurus plantani* from Java, received in exchange; five Common Vipers (*Vipera berus*), born in the Gardens.

OUR ASTRONOMICAL COLUMN

VARIABLE STARS.—The following are Greenwich mean times of geocentric minima of *Algol* to the end of the present year, which fall between about 6h. and 15h.; advantage has been taken of the recent observations of Dr. Julius Schmidt, at Athens, in their calculation:—

		h.	m.			h.	m.
1883, Sept. 3	...	12	56·5	1883, Nov. 5	...	14	46·9
6	...	9	45·0	8	...	11	35·8
9	...	6	33·6	11	...	8	24·6
23	...	14	36·5	28	...	13	18·2
26	...	11	25·1	Dec. 1	...	10	7·2
29	...	8	13·6	4	...	6	56·2
Oct. 16	...	13	5·6	18	...	15	1·5
19	...	9	54·3	21	...	11	50·6
22	...	6	43·0	24	...	8	39·7
				27	...	5	28·9

A geocentric minimum of U Cephei, Ceraski's short-period variable, falls about Dec. 1, 17h. 27m., and this phase takes place earlier in the night, through the winter. On February 19 the calculated time is 11h. 58m. We assume two periods of this star to occupy 4·98559d.

Mr. Chandler having found that the period of Sawyer's variable in Ophiuchus is only 20h. 7m. 41·6^{s}, this object goes through its fluctuations in a shorter time than any other known variable, R Muscæ following next, according to Dr. Gould, with a period of about 21h. 20m. The variation of light of the former star is stated to be about three-fourths of a magnitude. It is Lalande 31384, Weisse XVII. 143, and Santini + 2°, 200. Argelander and Heis call it 6m. The mean place for 1883·0 is in R.A. 17h. 10m. 35·7s., Decl. + 1° 20′ 32″.

The observations of Dr. Schmidt and Mr. Sawyer show that a maximum of χ Cygni occurred on September 2·5, 1882, and the mean period during the last six or seven years having been about 408 days, another maximum may be expected about October 16. The best position of this variable will be that given by a mean of Argelander's places in vol. vi. of the Bonn observations, viz. for

1855·0 ... R.A. 19h. 44m. 59·66s. ... Decl. + 32° 32′ 59″·4.

With Peters' constants we find—

Precession in R.A. 2·3065s. Secular variation + 0·0013s.
,, Decl. +8″·870. ,, + 0″·298

Whence for the beginning of the year 1884 the position becomes R.A. 19h. 46m. 6·5s. Decl. + 32° 37′ 15″.

The confusion that has taken place as to the identification of the true variable χ Cygni is almost ludicrous. Flamsteed attached Bayer's letter to his 17 Cygni, being misled, as Argelander has shown, by the variable star being faint when he observed. In 1816 Olbers referred, in Lindenau's *Zeitschrift für Astronomie*, ii. 185, to the misunderstandings and complications that had taken place through Flamsteed's mistake, pointing out that Pigott first gave the correct position of Bayer's χ; it was soon after determined by Koch, and was observed by Lalande in his zone of August 13, 1793. Further, in 1818, Bessel in the *Fundamenta Astronomiœ*, in a note to 17 Cygni, wrote, "*Flamsteedius* hanc stellam per χ designat; sed stella a *Bayero* ita dicta alia est neque reperitur in catalogo." Notwithstanding these rectifications, Baily, in the British Association Catalogue, falls into Flamsteed's error, calling No. 6784, 17 χ Cygni, and to this circumstance is perhaps to be attributed the confusion in recent popular English treatises as to the identification of Kirch's variable. 17 Cygni is a double star (Σ 2580), without any claim to the letter χ; Bayer's χ is Kirch's variable, and totally distinct from Flamsteed's 17.

A minimum of R Leporis may be expected about December 14; Mr. Sawyer found the star at a maximum about January 25, 1882.

THE GREAT RED SPOT UPON JUPITER'S DISK.—Prof. A. Riccò, of the Observatory at Palermo, in a communication to the *Memorie della Società degli Spettroscopisti Italiani*, gives interesting details of his observations on the features of Jupiter's disk, during the last opposition. The red spot had become very faint, indeed barely distinguishable in April and May, and was *invisible* at the commencement of June. Mr. Marth, in his "Ephemeris for Physical Observations of Jupiter" for the approaching opposition, has retained the same daily rate of rotation adopted in the ephemerides for the last two oppositions, remarking that even if it should be found that the great reddish spot has entirely faded away, it is still desirable that its place should be specially watched, and hence it has not been advisable to make any alteration in the data for the ephemeris at present.

THE MINOR PLANET, NO. 234.—Prof. Peters notifies his discovery of a new minor planet on August 12, and strange to say he estimates it as bright as the ninth magnitude. Its place at 18h. 51m. Greenwich M.T. was in R.A. 21h. 20m. 50s., Decl. − 12° 29′.

No. 175 *Andromache*, to which reference was lately made in this column, has so far escaped observation, though carefully sought for at Rome.

GEOGRAPHICAL NOTES

PROF. ALPHONSE MILNE-EDWARDS, chief of the French deep-sea expedition in the *Talisman*, writes from St. Vincent, Cape Verde Islands, under date July 28, that the expedition had met with complete success. After having investigated the deep-sea fauna of the Afriean coast to a distance of some leagues from Dakar, the expedition proceeded to Santiago and St. Vincent, sounding all the way. The island of Branco, where no naturalist had ever been, was investigated, the great lizards of the island receiving special attention in their native habitat. The coast is so rocky the naturalists had to swim ashore. The island is extremely volcanic, with scarcely any vegetation, although the lizards are herbivorous. The *Talisman* was about to proceed on the last section of her voyage, the investigation of the Sargasso Sea.

THE Austrian corvette *Pola* arrived at Hamburg on the 19th from Jan Mayen. The Austrians, who were entertained at a banquet by the Geographical Society of Hamburg, have brought home a large quantity of natural history specimens and photographs, and express themselves highly pleased with the results of their expedition.